



May 18, 2016

Ms. Cory Switzer, P.Eng.
Environmental Approvals Branch
Manitoba Sustainable Development
123 Main Street, Suite 160
Winnipeg, Manitoba
R3C 1A5



D001587 Dauphin - City of 587.06 Waste Disposal Ground 011162016 011162016

D-587.06

Dear Ms. Switzer,

RE: City of Dauphin – Waste Disposal Ground Upgrade and Expansion – Environment Act Proposal

Attached are responses to the comments and requests for additional information as forwarded to JR Cousin Consultants Ltd. (JRCC) from Cory Switzer at Manitoba Conservation and Water Stewardship on December 21, 2015, regarding the *City of Dauphin, Waste Disposal Ground Upgrade and Expansion Environment Act Proposal*.

1. **“Develop an Operating Plan, a Contingency plan in event contamination found in soils, groundwater, and an Emergency Plan (these will be licence conditions, they do not need to be completed prior to issuance of a Licence).”**

The City of Dauphin is aware of the requirement for an Operating Plan and Emergency Plan, and will work on addressing this after the Environment Act Licence is issued.

2. **“Provide additional information about site surface water drainage, monitoring, control and storage.”**

Section 2.5.9.9 and plan 3 of the EAP describes drainage characteristics of the proposed ditching around the expansion cells and compost area. The above grade berms and dikes proposed in the expansion would direct surface water away from the cells into perimeter ditching. The surface water accumulated on the existing WDG site, from precipitation, is graded to ditching along the interior access roads which flows south to the ditch along Road 147 N. Any capped cells at the site would have positive drainage away from the cell towards the perimeter ditching. Surface water is not currently stored or monitored onsite.

3. **“Provide additional information about the groundwater (quality, quantity, depth to usable aquifer, etc).”**

Section 2.5.6.1 and 2.5.6.4 describe the depth to the shallow groundwater table in the existing monitoring wells at the WDG site. The City of Dauphin does not have water quality data from these monitoring wells and past sampling from these wells has not occurred. Based on previous Driller Well Logs for the quarter section where the WDG is located, the aquifer consisted of sand and shale and was located at a depth of 6.0 m to 9.1 m below the surface. Based on groundwater availability mapping for the area, the nearest exploratory well to the WDG site, at SE 24-25-20 WPM, the aquifer tested consisted of sand and sandstone located at the shallowest depth of 8.8 m below the surface. The aquifer tested was in the shale and sandstone layers at a depth of 22 m to 25 m and was pumped at a rate of 3.75 imp. gallons/minute. This testing occurred in 1970.

4. "Describe the construction of the former (closed and current active cell, any leachate management systems installed)."

The existing cells on the site were not built to any formal specification, however from discussion with the City of Dauphin, the former and active cells were constructed to a depth of 1.8 m to 2.1 m below the surface in native (in situ) soils, with berms surrounding the cells. There were no leachate management systems installed in the former or existing waste disposal cells. The decommissioned cells on the west side of the WDG site were capped with sludge from the nearby Dauphin wastewater treatment lagoon under a provincial permit. Currently the waste disposal cells on the east side of the WDG site have not been capped, however the contaminated soils area is located on top of a former waste disposal cell on the northern portion of the site, as indicated on Plan 2 of the EAP Addendum.

5. "Describe the monitoring currently occurring for all closed cells (regarding leachate levels, settlement, landfill cap integrity, leachate seeps, etc.)."

There is no subsurface monitoring of closed cells on the site with regards to leachate levels. The site operators do conduct visual inspections of the surfaces of the closed cells to identify any abnormalities. If any seepage from the cap or noticeable settlement occurs, the site operators would conduct more detailed investigations.

6. "Describe proposed monitoring wells to be installed around the closed cells as well as the new cells."

The proposed monitoring wells will be installed at the locations shown on Plan 3 of the EAP. Section 2.5.9.4 of the EAP describes the location and depth of the proposed monitoring wells. The slotted portion of the wells will be located in the permeable sand layer of the soils and will extend to a depth below the closed and expansion cell floor elevations to capture any potential contaminated groundwater flows. Additional monitoring wells can be placed around the perimeter of the closed cells. Approval from Manitoba Conservation will be obtained for location and number of wells to be installed during the design phase of the project.

7. "Provide the results of the monitoring well samples that have been taken."

No past monitoring well sampling has occurred at the WDG site.

8. "Develop a leachate management system for the proposed cells, to include at minimum collection, removal, conveyance and storage/or treatment or alternative management system for leachate."

A leachate management system will be developed for the proposed expansion cells, which will include leachate collection piping in the floor of the expansion cells, and a dedicated leachate evaporation pond. The leachate collection piping would flow by gravity to a manhole and from this manhole the operator would manually pump leachate to the leachate pond. The pond would be sized for liquid accumulation on the active portion of the waste disposal ground and precipitation falling directly on the leachate pond. The Environment Canada data for precipitation and evapotranspiration for the area would be utilized in the sizing of the leachate pond. The attached plan shows the revised site layout with an area identified for the leachate collection and storage pond, adjacent to the compost leachate evaporation pond.

9. **"Provide additional information about the fish disposal pit (sizing, lining, frequency of cover, any additives utilized for odour, operational parameters, volumes of waste received)."**

The fish disposal pit identified on Plan 2 of the EAP Addendum should be amended to be called a pit for "animal mortalities", not simply for fish. The requirements of the existing operating permit for accepting animal mortalities would continue to be followed, which includes covering with one metre of earthen cover within 24 hours of any disposal. Plan 2 of the EAP Addendum has been updated and attached. This existing pit is located in a closed cell on the west side of the site and was excavated to a depth of approximately 2.0 m. From discussion with the site operator, this animal mortalities pit is used approximately once or twice per month.

10. **"Provide authorization of used oil collection and pesticide container depot under Dangerous Goods Handling and Transportation Act."**

Used oil is not accepted at the site, as the City of Dauphin has another location intended for drop off, however a used oil tank is located at the site for WDG equipment maintenance only. The used chemical container compound is operated under registration No. MB3001133, issued by Manitoba Environment and Workplace Safety and Health on December 28, 1990 (see attached).

11. **"Provide information regarding the Contaminated Soils Area (treatment base and containment information, drainage/storage of surface water from land farm, type of soils accepted, limits, volumes, processing/treatment description)."**

The contaminated soils cell is located on top of a former waste disposal cell in the north portion of the WDG site and has a footprint of approximately 11,000 m². This cell area is surrounded by an earthen berm on all sides which contains leachate within this cell. The soils accepted include, but are not limited to hydrocarbon contaminated soils and are tested in accordance with Manitoba Guidelines 96-05 and CCME standards prior to utilizing as cover material for the waste disposal cells. The soils are typically left to decontaminate for approximately 2 to 3 years with intermittent surface mixing for aeration. This contaminated soils cell was approved by Manitoba Conservation in accordance with Order No. D1-176 on October 15, 2010 (see attached).

12. **"Provide description, use, types of materials separated, etc. for the Shingle and Construction Waste Storage area."**

The shingles are placed in the active waste disposal cell. Untreated lumber is placed in the burn cells. Concrete waste material is separated based on whether it contains rebar or not and is stored in the northwest corner of the property on top of a closed cell.

13. **"Provide a copy of the Geoenvironmental Investigation Livestock Disposal Site – Dauphin, MB by UMA 2008 and any other relevant previous geotechnical reports including the 2011 geoenvironmental investigation report."**

There is no 2011 Geoenvironmental Investigation report, this should be corrected in Section 2.5.6.4 of the EAP to read "the 2008 Geoenvironmental Investigation Report". The 2008 Geoenvironmental Investigation report has been attached.

14. "Provide additional information on the Composting facility."

a. Listing of feedstock to be included in licence

- The compost area will receive grass, leaves and garden materials

b. Listing of bulking materials

- Woodchips obtained from the City would be used as a bulking agent

c. Clarification if compost pad already constructed, as identified in 1.6 of addendum page 1 of 2 or to be constructed as per 2.5.7 of page 2-13

- There is a temporary compost area already in use at the site, however a new compost pad is proposed in Section 2.5.7 of the EAP, which will allow for greater capacity and control of composting process. As well as containing leachate generated from the compost.

d. What is the proposed end use of compost

- The composted end product will be utilized for planting beds in the City of Dauphin, if it meets CCME standards, and also for waste disposal cell cover material. If CCME standards can be met, then the material may be offered to residents, depending on quantity available.

e. Identify what is meant by 'after hours drop off location', the type of containers or liner in place and the length of time raw feedstock would remain at this location

- The 'after hours drop off area' is a cleared and fenced area at the entrance to the WDG site utilized by residents for dropping off compost material from 7 pm to 8 am and all day on Sunday, while the site is closed. This drop off area is not lined, and the material is removed from this area daily, while the site is operating (Monday thru Saturday). The longest amount of time compost material is left in this area would be approximately 36 hours (between Saturday evening and Monday morning).

f. Operational practices

- Section 2.5.12.2 of the EAP describes operational practices at the proposed compost area. In addition, the City intends on purchasing a compost turner in the future. It is intended that the compost will be turned approximately every two to three weeks for aeration.

15. "Provide additional information regarding the new cell construction – water present at a depth above the depth of the cut off wall and cell base are to be established, has dewatering been considered for construction? What is to be done if there is not sufficient high plastic clay to line the cells, the leachate pond, the compost pad etc?"

In the test holes conducted, water infiltration was noted at depths of 1.2 m to 2.6 m below the surface, which will impact construction works, however the construction contractor will be made aware of these conditions and will be prepared to dewater the excavation as necessary to rework the liner, as described in Section 2.5.9.3 of the EAP. If sufficient high plastic clay is not available from the expansion cell and leachate pond excavations, then borrow soil materials will need to be hauled to the site from a nearby borrow pit.

16. "Explain the difference of the conclusion of suitability between the results from Stantec of TH2 1.2 – 2.9 m and TH7 1.2 – 2.4 m from Aug. 26, 2014 report and the Oct. 6, 2014 report."

The initial analysis of the soil characteristics indicated that these samples (TH2 1.2 – 2.9 m and TH7 1.2 – 2.4 m) had relatively high clay and silt contents, however the laboratory classified them as low plastic and unlikely to achieve a hydraulic conductivity of 1×10^{-7} cm/sec or less, based on the plasticity index (less than 25) and clay content (less than 50%). However, after reworking these soils, the hydraulic conductivity results were less than 1×10^{-7} cm/sec. As described in Section 2.5.6.2 of the EAP, testing of hydraulic conductivity with an in situ Shelby tube or by reworking a bulk sample is a more accurate representation of predicting hydraulic conductivity under field conditions, rather than basing the conclusions on results of plasticity index and clay content from bagged samples alone. The bagged samples provide a basic estimate of the soil conditions, but permeability testing is a more accurate and reliable method for estimating liner conditions.

I trust the enclosed responses sufficiently address the comments and requests for additional information. If you have any concerns or additional requirements, please contact the undersigned.

Sincerely,

JR Cousin Consultants Ltd.



Oswald Wohlgemut, M.Sc.
Environmental Scientist

Reviewed by



Jeff Dyck, P.Eng.
Senior Municipal Engineer

cc Bill Brenner, City of Dauphin, via email





Environment and Workplace
Safety and Health

Environmental Management
Inspection

27 — 2nd Avenue, S.W.
Dauphin, Manitoba, CANADA
R7N 3E5

Town of Dauphin
21 - 2nd Avenue N.W.
Dauphin, Manitoba
R7N 1H1

December 28, 1990

Attention: Mr. A. G. Dmitruk
Secretary Treasurer

Dear Mr. Dmitruk:

**Re: Pesticide Container Collection Depot
Town of Dauphin**

Please find enclosed the operating order for the pesticide container collection depot located within the Town of Dauphin. The Provincial Registration number assigned to the depot located at Part SW 1/4 20-25-19 WPM as a hazardous waste facility is MB3001133.

The inspection information for the site indicates that the depot is not in compliance with a number of items listed in the order. Please ensure that these deficiencies are corrected such that the facility is in compliance with the order for the 1991 operating season.

As stated in Clause 14 of the order the Town of Dauphin may apply for a variance to the order if it considers that the improvements to the depot are not necessary.

Your attention to this matter is appreciated.

Yours truly,

Bernard J. Crisp
Regional Director

BJC:ls

Enclosure

**HAZARDOUS WASTE MANAGEMENT FACILITY
OPERATING ORDER**

Issued by the Manitoba Department of Environment to Town of Dauphin pursuant to The Dangerous Goods Handling and Transportation Act for the operation of a pesticide container collection depot located Part SW $\frac{1}{2}$ 20-25-19 WPM.

Approval is hereby granted for the operation of the facility described above, subject to the following terms and conditions:

1. The facility shall only be used to store containers which were last used to contain agricultural pesticide products registered under the Pest Control Products Act of Canada.
2. The depot shall be located on soil formations which will prevent percolation of contaminants into groundwater. Where local soils are not adequate to protect groundwater, the storage must be upgraded with the addition of either a clay or a synthetic membrane liner. The Department may issue specific instructions on sites which require upgrading for the purpose of groundwater protection.
3. The depot and surrounding land must be graded, channelled or bermed in order to:
 - a) prevent drainage or runoff from the surrounding area from entering the storage site, and
 - b) prevent drainage or runoff from leaving the storage site.
4. The area within the depot shall be graded to a sump capable of containing any accumulated precipitation and/or pesticide residues.
5. The depot shall be surrounded by a fence capable of retaining all containers stored within the facility and separating the storage area from the surrounding land usage.
6. An all-weather road shall be maintained for access to the depot.
7. The depot shall be at least 500 meters from a residence or a body of surface water and at least 100 meters from a waterwell.
8. A fire break area shall be maintained outside of the perimeter fence to prevent the spread of a grass or garbage fire into the depot.
9. Separate areas shall be designated within the depot for the storage of metal and plastic containers.

10. Signs shall be posted at all entrances to the depot identifying it as a pesticide container depot and providing instructions to users of the facility on how and where to deposit containers. The sign should also display a 24 hour emergency number for contacting the owner of the depot. All signs posted at the depot must be constructed of weather resistant materials and must be legible from a distance of at least 10 meters.
11. Accumulated containers shall be removed from the depot at least once per year.
12. Any liquid accumulated at the depot from rinsing or draining of containers shall be stored in 205 L drums which meet CTC Specification 17E. Drums shall be removed from the depot in accordance with applicable hazardous waste legislation. Drums containing liquid residues shall not be stored at the depot during periods when freezing temperatures may reasonably be expected for more than 24 hours.
13. Any pesticide containers being removed from the depot must comply with applicable hazardous waste legislation unless:
 - a) the material last contained in the container is not listed as a dangerous good in the federal Transportation of Dangerous Goods Regulations or does not meet the criteria specified in the Regulations, or
 - b) pesticide residues have been removed from the container in a manner acceptable to the Department.
14. The Department may, upon receipt of a request from the operator of a facility affected by this order, vary any of the specific provisions of the order if the applicant can show that the variance will not result in a lesser degree of environmental protection.
15. The Department may require the operator of a facility affected by this order to conduct contaminant studies of the depot during the operation or upon closure of the site.
16. The party identified as the operator of the depot is considered to be responsible for complying with the conditions of this order. The owner of the land on which the depot is located will be deemed to be the operator unless the owner can provide the Department with written evidence that another party has assumed responsibility for operation and for ensuring compliance with this order.

Registration Number: MB3001133

Dated this 20th day of December, 1990


Director

PESTICIDE CONTAINER COLLECTION : EPOT

Inspection Check List

Location SW 1/4 20-25-19 Inspection Date Sept 13/90
 Operator Town of Dauphin Inspector P. Spokul

	YES	NO
<i>(Include comments on each section, where applicable)</i>		
1. Depot used for pesticide containers only <i>separate depot within WDG.</i>	X	
2. a) Has an impermeable base been installed?		
b) Does groundwater hazard appraisal identify the site as a pollution hazard area?	X	
3. Are drainage control features in place?		X
4. Is collection sump in place within depot?		
5. Is adequate fencing up around storage area?	X	
6. Does depot have an all-weather access road?	X	
7. a) Is depot at least 500 m from residence or surface water?	X	
b) Is depot at least 100 m from a water well?	X	
8. Is a fire break in place around the depot?		
9. Are metal and plastic containers segregated?	X	
10. Are proper signs posted at depot entrance?	X	
11. Are accumulated liquids and residues stored in proper drums?		

General Comments:

09.05.10

COPY

THE DANGEROUS GOODS HANDLING and
TRANSPORTATION ACT
LA LOI SUR LA MANUTENTION ET LE TRANSPORT
DES MARCHANDISES DANGEREUSES



ORDER / ORDRE

Order No. / N° de l'ordre D1-176

Issue Date / Date de délivrance October 15, 2010

In accordance with The Dangerous Goods Handling and Transportation Act (C.C.S.M. c. D12) /
Conformément à la Loi sur la manutention et le transport des marchandises dangereuses (C.P.L.M. c. D12)

THIS ORDER IS ISSUED TO:/CET ORDRE EST DONNÉ À:

The City of Dauphin
100 Main Street South
Dauphin MB R7N 1K3

IN THIS ORDER:

“The Act” means The Dangerous Goods Handling and Transportation Act (C.C.S.M.c.D12).

“Contaminant(s)” means any solid, liquid, gas, waste, radiation or any combination thereof that is foreign to or in excess of the natural constituents of the environment and

- (a) that affects the natural, physical, chemical or biological quality of the environment, or
- (b) that is or is likely to be injurious or damaging to the health or safety of a person.

“Director” means Don Labossiere, a Director of Manitoba Conservation, as designated by the Minister of Conservation within The Dangerous goods Handling and Transportation Act.

“Subject site” means the Soil Treatment Facility located at the City of Dauphin Waste Disposal Ground in Dauphin, Manitoba and legally described as S.W. quarter Section 20, Township 25, Range 19 WPM.

WHEREAS the City of Dauphin has submitted an application for a Soil Treatment Facility located at the Dauphin Waste Disposal Ground the Subject Site to treat petroleum contaminated soils;

AND WHEREAS the soils being treated may be impacted with petroleum hydrocarbons, heavy metals, and other contaminants and may cause significant adverse effect on an area of the environment;

AND WHEREAS the City of Dauphin is legal owner of the Subject Site;

AND WHEREAS under Section 16(3) of the Act, the Director may require a person to carry out such measures as considered necessary to prevent contamination or secure the affected areas and the environment affected by it, including monitor, measure, contain, remove, store, or otherwise dispose of contaminants;

The City of Dauphin
Director Order #D1-176

PURSUANT TO SECTION 16(3) OF THE ACT, I HEREBY ORDER The City of Dauphin to do the following:

1. The City of Dauphin shall ensure that the Soil Treatment Facility is operated in accordance with Manitoba Guideline 96-05 *Treatment and Disposal of Petroleum Contaminated Soil revised April 2002* and the terms and conditions of this Order.
2. The City of Dauphin shall ensure that impacted soil is placed only within the Soil Treatment Cell (hereafter referred to as the Cell) and that impacted soil is placed in such a manner so as to prevent overflow of soil or run-off water from the Cell.
3. All berms surrounding the Cell shall be at least 0.5 metres above the level of the impacted soil at the edges of the Cell in order to contain any run-off water.
4. The City of Dauphin shall ensure that all run-off water and leachate from soils in the Cell are contained within the Subject Site.
5. The City of Dauphin shall ensure that confirmatory sampling is conducted in accordance with Manitoba Guidelines 96-05. Prior to the removal of any soil from the Cell, results of confirmatory sampling shall be provided to Manitoba Conservation for review and approval.

In accordance with Section 22 of The Act, if any of the requirements of this Order are not complied with, in my capacity as Director I may cause to be done, at any time, any or all things required by the Order and I may issue to the City of Dauphin an Order to pay the costs of anything caused to be done.

Date: Oct 25 2010



Don Labossiere
Director

Served by: _____

Received by: _____